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U. S. DEPARTMENT OF AGRICULTURE

In Cooperation with State, Federal and Other Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 29, 1950
(Ninth Cotton Insect Survey Report for 1950)

Billions of bolls were injured or ruined by boll weevils during August and September 1949, because many cotton growers failed to continue applying insecticides when they were most urgently needed. The yields can be increased and the quality of the lint improved on millions of acres of cotton in 1950 by the proper application of insecticides during August, and in September in some areas. Where boll weevils are abundant during August it is often necessary to make the insecticide applications at intervals of not more than 3 or 4 days. The success or failure of the fight against the boll weevils in 1950 will be determined during August on thousands of farms from Virginia and the Carolinas to western Oklahoma and Texas.

AIRPLANES FOR COTTON INSECT CONTROL

For more than 25 years there has been a steady increase in the use of airplanes for cotton insect control and now there are hundreds of commercial airplane dusting and spraying operators and thousands of airplanes in the cotton growing States. Although airplanes have been used for distributing insecticides on many thousands of acres during June and July, there will probably be more airplanes used during August for cotton insect control than during any previous month. To obtain satisfactory results from the use of airplanes it is necessary that the insecticide applications be carefully made. This means that the airplanes must be flown low, close to the plants; it means that the swath must not be wider than the airplane; it means that one or two men are on the ground to flag the planes to make certain that not a single row is missed; and it is also necessary to check on the insecticides that are used to make certain that the proper material is being applied in sufficient quantity to do a satisfactory job of insect control.

COTTON INSECTS CONTROLLED BY DEFOLIATION

Some cotton growers have already begun using defoliants. Many others will defoliate their cotton during August and September. Defoliation of cotton is helpful in various ways in different localities. Most of the boll weevils leave the defoliated fields. This means increased yields and better quality of lint as much of the damage to the maturing bolls is eliminated. It also prevents the serious injury to the grade of lint sometimes caused by aphids and leafworms late in the season. Most cotton fields that are defoliated in the late summer or early fall are free of boll weevils the following spring.

INSECTICIDES AND DEFOLIANTS AND EQUIPMENT FOR APPLYING THEM

To aid in the fight against the boll weevil and other cotton insects during the remainder of this season airplanes will probably be used more extensively than in any previous year for the distribution of insecticides and defoliants. Where cotton is too rank, or the soil too soft, for the use of ground machines, or where time is a very important element, the airplanes can often save the crops. Fortunately this year there are more airplanes available than during any previous year. A new List of Commercial Dusting and Spraying Operators was issued on June 15, 1950, by the Civil Aeronautics Administration, Department of Commerce, Washington, D. C.

Fortunately there are now many commercial airplane operators to aid the cotton growers in each of the important cotton growing States including:

State	No. Operators	State	No. Operators	State	No. Operators
Alabama	20	Illinois	65	North Carolina	14
Arizona	21	Kentucky	5	Oklahoma	29
Arkansas	38	Louisiana	31	South Carolina	19
California	106	Mississippi	29	Tennessee	2
Florida	48	Missouri	18	Texas	144
Georgia	20	New Mexico	13	Virginia	6

South Carolina: The summary statement that accompanied the Cotton Letter issued by the Extension Service, Clemson College, on July 25 reports shortages of toxaphene in Berkeley, Dillon, Greenwood, and McCormick Counties; shortages of a mixture containing 3% gamma benzene hexachloride and 5% DDT in Berkeley, Dillon, Lancaster, Richland, and Saluda Counties; shortage of calcium arsenate in Marion County; and of defoliants in Orangeburg County. Shortages of spraying machines were reported in Berkeley, Greenville, and York Counties; mule dusters in Berkeley, McCormick, and Oconee Counties; hand dusters in Oconee County; tractor dusters in York County; and shortages of all types of dusting and spraying equipment were reported in Dillon and Marion Counties.

Georgia: E. C. Westbrook, Extension Agronomist, Athens, reports that county agents have reported shortages of insecticides for cotton insect control in the following counties; Banks, Dooly, Douglas, Franklin, Gordon, Harris, Heard, Irwin, Jasper, Pickens, Pike, Polk, Quitman, Randolph, Washington, Wayne, Whitfield, Wilcox, and Wilkes.

P. M. Gilmer, Entomologist, Tifton, received reports concerning shortages of insecticides for cotton insect control from teachers of Vocational Agriculture and others in the following counties: Bartow, Bibb, Brooks, Bulloch, Coweta, Decatur, Dougherty, Elbert, Emanuel, Floyd, Gordon, Gwinnett, Hart, Heard, Irwin, Jackson, Lowndes, Macon, Madison, Morgan, Oglethorpe, Paulding, Putnam, Schley, Sumter, Tattnall, Treutlen, Twiggs, Walton, Warren, Washington, Wheeler, and Whitfield. The shortages of chemicals include 21 of benzene hexachloride, 8 of calcium arsenate, 10 of DDT, and 17 of toxaphene.

Alabama: Insecticide dealers and county agents in southeastern counties report adequate supplies of insecticides. If these supplies have not been used when the cotton dusting program is over in the southeastern counties, arrangements are being made to transfer the insecticides to north Alabama where the demand for them is still great.

Mississippi: Dr. Clay Lyle stated: "Benzene hexachloride is scarce in some sections but no serious shortage of insecticides has yet been reported in Mississippi."

Excerpts from Weekly Cotton Weather Bulletin issued by the Weather Bureau, U. S. Department of Commerce, New Orleans, Louisiana, July 25:

Weather and Cotton over the Belt: Rather frequent and locally heavy rains occurred over the northern and eastern Cotton Belt; as result cotton grew rather rapidly, becoming rank in places, with weevil activity increasing and control measures rather ineffective. More sunshine, less rain in the southern Belt enabled better control of weevil activity with little damage in poisoned fields.

Texas: Cotton insects increased northwest.

Oklahoma: Weather ideal for development insects, dry weather needed to permit poisoning.

Arkansas: Beneficial rains fell where most needed; hampered insect control.

Louisiana: Cotton fruiting well but weevils very active unpoisoned fields.

Mississippi: Cotton fruiting heavily despite weevil activity.

Tennessee: Weather allowed boll weevil to flourish.

Alabama: Weather moderately favorable for weevil activity; poisoning active in all areas.

Georgia: Weather favorable for controlling insect infestation.

South Carolina: Cotton fruiting well but too much rain last two weeks caused too rank growth, weevil activity and heavy shedding - last few days more favorable for poisoning.

North Carolina: Considerable boll weevil damage causing only fair condition in cotton; some dusting between showers.

Arizona: Insects increasing, some bollworms; dusting limited by frequent showers, wind.

California: San Joaquin cotton made excellent progress, some dusting for armyworms.

New Mexico: Some worm, grasshopper infestation with dusting for control active.

BOLL WEEVIL

Virginia: Reports were received on July 28 in regard to 13 cotton fields in Nansemond County and 2 fields in Isle of Wight County. In 6 fields where insecticides had not been used, an average of 65% of the squares had been punctured. In 5 fields that had received 1 insecticide treatment there was an average of 21% punctured squares and in 4 fields that had received from 2 to 4 insecticide applications there was an average of only 7% punctured squares. The average for all 15 fields was 15% punctured squares. The untreated fields had from 42 to 91% punctured squares. One field that had received 3 applications of insecticides had 6% of the squares punctured, and the 2 fields that had received 4 insecticide applications had 5% and 2% punctured squares. The report states: "Cotton looks good in Virginia; blooming well in those fields dusted for weevil control."

North Carolina: Showers and general rains in many sections of the State toward the end of the week made conditions unfavorable for weevil control. In the examination of 140 poisoned fields in 25 counties the infestation averaged 18% punctured squares as compared with 14% the previous week. The infestation ranged from 1 to 10% in 38 fields; from 11 to 50% in 93 fields; and in 9 fields more than 50% of the squares were punctured. All of the 120 unpoisoned fields examined in 28 counties were infested at an average rate of 64% punctured squares. In one field in Davie County less than 11% of the squares were punctured. In 34 fields the infestations ranged from 11 to 50% and in 85 fields more than 50% of the squares were punctured.

South Carolina: The Extension Service Cotton Letter issued at Clemson College on July 25 states that the average boll weevil infestation in the poisoned fields examined in 40 counties was 21% punctured squares as compared with 15% the previous week. All of the unpoisoned fields examined in the same 40 counties were infested at an average rate of 71% punctured squares, as compared with 61% the previous week, or an increase of 10% punctured squares during the week. These records indicate that weevils are more than three times as numerous in the untreated fields as in the fields where insecticides have been used.

L. C. Fife et al, Florence, reported than in the examination of 100 unpoisoned fields in 20 counties the average infestation was 96% punctured squares as compared with 82% the previous week. All of the fields examined had more than 50% of the squares punctured and in no county was the average infestation less than 91%. In the examination of 60 poisoned fields in the same 20 counties the average infestation was 75% punctured squares. In 4 fields in Lee, Kershaw, and Greenville Counties the infestations ranged from 26 to 50%, and in 56 fields more than 50% of the squares were punctured. Squares are becoming scarce in most fields in the central and southern parts of the State and this accounts to a large extent for the increased infestations in these areas.

Alabama: Boll weevils were found in all of the 62 fields examined in 11 southeastern counties at an average rate of 41% punctued squares. The infestation ranged from 14 to 25% in 5 fields; from 26 to 50% in 46 fields; from 51 to 75% in 10 fields; and in 1 field in Henry County 81% of the squares were punctued.

Tennessee: In the examination of 26 fields in Fayette, Hardeman, McNairy, and Shelby Counties the average infestation was 37% punctured squares as compared with 27% the previous week. The infestation ranged from 1 to 10% punctured squares in 3 fields; from 11 to 25% in 6 fields; from 26 to 50% in 11 fields; and in 6 fields more than 50% of the squares were punctured.

Mississippi: Clay Lyle, Entomologist, reported on July 31: "Daily rains, a large second generation of boll weevils and occurrence of boll rots in some localities were discouraging factors in the Mississippi cotton situation during the past week. Rains were almost continuous in some sections and weevil infestations were rapidly increasing where poison had been delayed or washed off. Fields where the infestation had been previously knocked down to less than 10 percent are now approaching 50 percent in some cases.

"Although records in the hill section of the State have been largely discontinued because of general poisoning, examination of 55 farms in 12 counties showed infestations ranging from 1 to 92%, averaging 37%. In 16 Delta counties 442 out of 472 fields examined were infested at an average rate of 20% as compared to 18% last week and 40% on the same date last year.

"The only uninfested farms are in the Delta. In the remainder of the State any cotton not poisoned shows close to 100% infestation. In the southern part of the State squares are getting scarce and all are infested. Elsewhere in the hill section the infestations are dependent upon the number of poison applications and the care with which they are applied."

Louisiana: No boll weevils emerged in the hibernation cages at Tallulah during the week and no more records will be made this season. Boll weevils survived the past winter in much larger numbers than usual. The survival in the cages was higher than in any recent years except 1941 and 1937. It was nearly as high in 1945 and 1932.